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WATER SUPPLY OUTLOOK

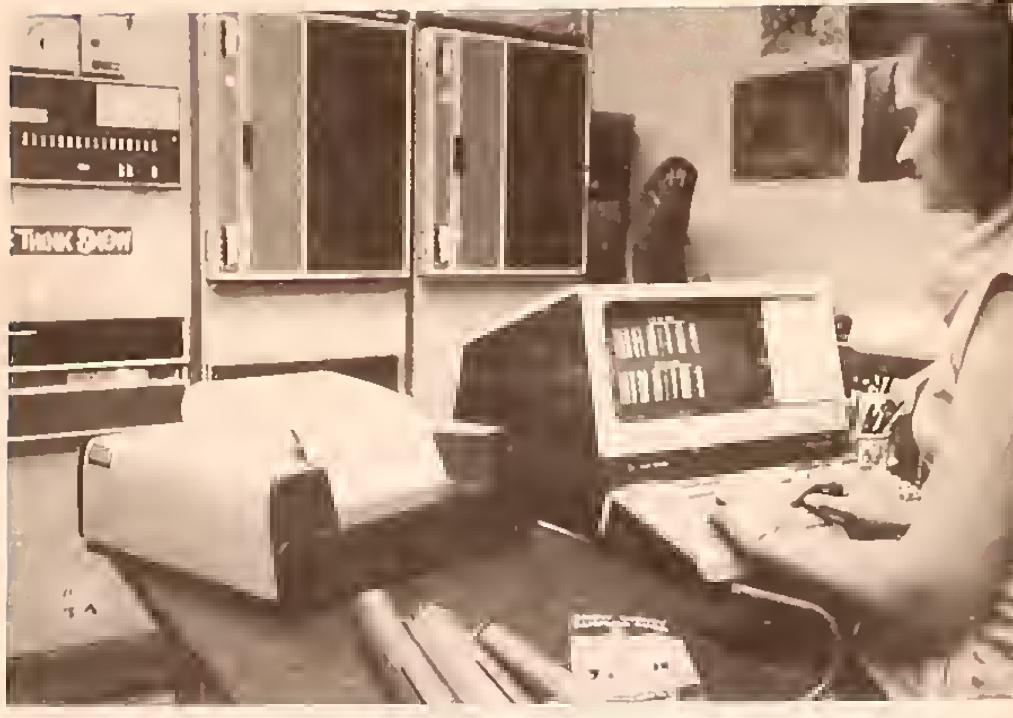
FOR
CURRENT SERIAL RECORDS
MONTANA

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Collaborating with

MONTANA AGRICULTURAL EXPERIMENT STATION

AS OF
JUNE 1, 1980



UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
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SPRING STORM IS A DANDY

Most mountain ranges in Montana received significant precipitation during the Memorial Day Weekend. SNOTEL sites south and west of Great Falls reported between 5 and 7 inches of precipitation. The largest amount was 7.2 inches at Boulder Mountain in the Big Belt Mountains, at an elevation of 7950 feet. Most other stations reported between 2 and 5 inches of precipitation. Almost all sites reported some new snow. The high elevation sites reported that much of the precipitation fell as snow.

The following amounts of precipitation (in inches) were reported at SNOTEL sites from the morning of May 22 through the morning of May 28:

Badger Pass	6.6	Lakeview Ridge	4.1
Beagle Springs	2.8	Lemhi Ridge	4.2
Black Bear	4.1	Lick Creek	2.4
Black Pine	3.2	Many Glacier	4.8
Bloody Dick	2.7	Mount Lockhart	4.8
Boulder Mountain	7.2	North Fork Elk Creek	5.8
Box Canyon	2.2	Northeast Entrance	1.8
Calvert Creek	2.3	Pickfoot Creek	4.8
Clover Meadow	2.7	Porcupine	4.0
Cole Creek	1.6	Rocker Peak	4.2
Combination	2.3	Saddle Mountain	3.9
Copper Bottom	4.0	Shower Falls	3.4
Copper Camp	4.7	Silver Run	1.1
Crystal Lake	4.2	Spur Park	4.5
Deadman Creek	2.4	Stahl Peak	3.3
Divide	2.9	Tepee Creek	4.1
Fisher Creek	2.5	Twelvemile Creek	2.9
Flattop Mountain	5.6	Twin Lakes	4.0
Frohner Meadow	3.7	Waldron	5.5
Grave Creek	2.8	Whiskey Creek	3.1
Hand Creek	3.7	White Mill	2.7
		Wood Creek	6.0

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In Cooperation with
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STATEWIDE OUTLOOK

STREAMFLOW FORECASTS

MOUNTAIN SNOWPACK

The cool weather, additional snowfall and moisture have helped improve Montana's water supply outlook. This additional moisture has increased the expected runoff only a small amount as much of the precipitation was absorbed by the dry soils and was not available for runoff. The snowfall helped spread the moisture over a several day period as the temperatures were too cool to generate much melt. Water levels have increased in most reservoirs during the last two weeks. Most streams have already had their snowmelt peak and will start receding soon unless another moisture laden storm system moves into the state.

Shortages of irrigation water are still expected to occur in most areas except where adequate water is available from reservoir storage.

Even though considerable snow fell during recent storms, the snowpack remains below average. This is the result of low snowpack accumulation this winter and considerable melt during the first part of May. Cool weather during the last two weeks has retarded snowmelt where snow remains. In most areas snow remains only in the higher elevations and in protected areas on north facing slopes. Mountain soils are generally wet from recent rainfall and snowmelt.

Valley precipitation was heavy at many climatic stations in the western half of Montana. May precipitation established new records at some stations.



AGENCIES & ORGANIZATIONS COOPERATING in Montana Snow Surveys

GOVERNMENT AGENCIES

Canada - Department of Environment, Calgary
Water Resources Service, Department of Lands, Forests and Water Resources, Victoria, British Columbia
Alberta Department of Natural Resources

United States

Army Corps of Engineers
State Water Resources Board
Rocky Mountain Research Station
National Water Resources
National Weather Service
Forest Service
University of Montana
Montana State University
Montana Water Resources
Montana Dept. of Natural Resources

STATE OF MONTANA

Conservation Commission
Department of Fish, Wildlife & Parks
Department of Natural Resources & Conservation
Department of Transportation
University of Montana School of Law
State Treasurer

PRIVATE ORGANIZATIONS / INDIVIDUALS

Rocky Mountain Company
Montana Power Company
The Great Northern Company
Big Horn Mountain
First & Last Resorts
Rocky Mountain
Rocky Mountain

SNOTEL

Montana is scheduled to install radio telemetry equipment on 18 SNOTEL sites this field season. This will bring the number of automated sites in Montana to 63. Western Union and Soil Conservation Service staff will install telemetry equipment at the following sites:

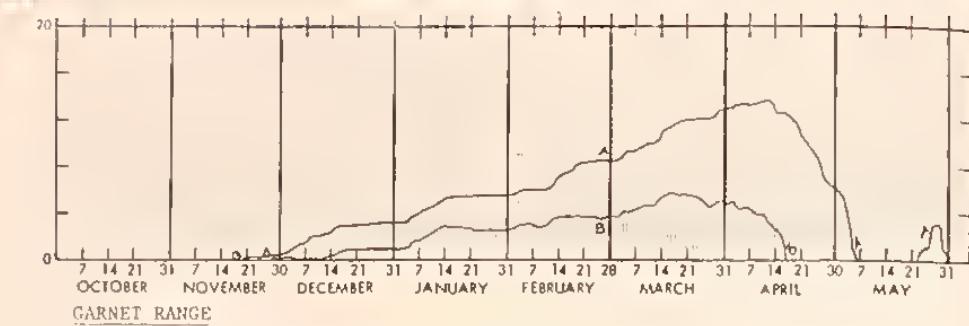
Barker Lakes southwest of Anaconda
Basin Creek south of Butte
Cashe Creek south of Bozeman
Daly Creek east of Hamilton
Darkhorse Lake west of Dillon
Emery Creek east of Columbia Falls
Hoodoo Creek south of Superior
Kraft Creek northwest of Seeley Lake
Lower Twin northwest of Ennis
Monument Peak south of Big Timber
Mule Creek northwest of Dillon
Nez Perce Camp southwest of Darby
Nevada Creek northwest of Helena
Pike Creek west of East Glacier
Placer Basin southeast of Livingston
Skalkaho Summit east of Hamilton
Skylark Trail northwest of Seeley Lake
Warm Springs southeast of Philipsburg

Starting July 1, 1980, the SCS will assume all electronic maintenance at SNOTEL sites and will be responsible for their operation. Previously, electronic maintenance was under contract with Western Union and site maintenance was an SCS responsibility.

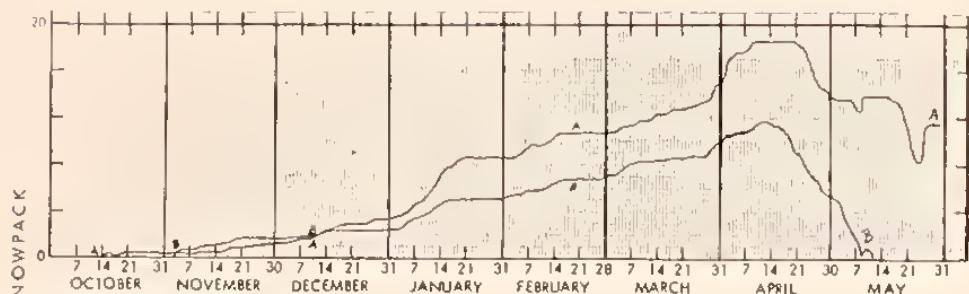
SNOW SURVEY DATA

SNOW												
DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR		PAST RECORD		DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR		PAST RECORD		
NAME	Elevation	DATE OF SURVEY	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	NAME	Elevation	DATE OF SURVEY	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
ARCH FALLS	7350	5/27	9	1.7	6.6	10.2	7260	5/29	SP	12.2	17.1	--
BAUGER PASS	6900	5/31	39	19.2	34.1	41.3	7000	5/31	0	0.0	0.0	1.2
BAUGER PASS PILLOW	6900	5/31	SP	10.9	27.8	--	8100	6/01	EST	3.0	17.0	18.8
BANFIELD MOUNTAIN	5600	6/05	0	0.0	0.0	7.6	8100	6/01	SP	2.9	16.5	18.2
BANFIELD MOUNTAIN PILLOW	5600	6/05	SP	0.0	.4	4.2	6050	6/05	20	9.4	25.4	35.8
BEAGLE SPRINGS	8850	6/01	EST	3.0	1.0	--	6050	6/05	SP	16.3	--	30.2
BEAGLE SPRINGS PILLOW	8850	6/01	SP	2.7	.5	--	6180	5/27	6	2.6	18.5	--
BEAR PAW SKI AREA	5200	5/28	0	0.0	--	--	7400	6/05	10	4.0	18.2	20.2
BIG CREEK	6750	5/31	51	28.5	45.3	44.3	3950	5/28	0	0.0	--	--
BLACK BEAR	7950	6/01	EST	23.5	23.0	36.0	4080	5/28	0	0.0	--	--
BLACK BEAR PILLOW	7590	6/01	SP	22.8	22.8	30.1	8000	5/29	20	5.8	7.0	11.9
BLACK PINE	7100	5/29	3	1.2	.6	4.1	8000	5/29	SP	4.4	3.0	5.3
BLACK PINE PILLOW	7100	5/29	SP	2.0	.5	4.4	6100	5/31	6	2.8	29.7	27.0
BLOODY DICK	7600	6/01	EST	0.0	0.0	--	6800	6/05	8	3.3	9.3	11.3
BLOODY DICK PILLOW	7600	6/01	SP	0.7	0.0	--	5600	6/01	EST	0.0	0.0	2.6
BLUE LAKE	5900	5/31	0	0.0	10.8	14.7	5600	6/01	SP	0.0	0.0	.9
BOULDER MOUNTAIN	7950	6/01	EST	8.5	13.0	--	3580	5/31	0	0.0	0.0	0.0
BOULDER MOUNTAIN PILLOW	7950	6/01	SP	7.1	13.5	--	6510	6/01	EST	20.0	28.0	30.7
BOX CANYON	6670	6/01	EST	0.0	0.0	--	6400	6/01	SP	19.1	27.0	28.1
BOX CANYON PILLOW	6670	6/01	SP	0.0	0.0	--	6200	6/05	0	0.0	23.8	24.8
DOXELDER CREEK	5100	5/28	0	0.0	--	--	5600	6/01	EST	0.0	0.0	0.0
BRIDGER BOWL	7250	5/28	10	3.1	19.2	23.6	6000	6/01	SP	0.0	0.0	.2
BRIDGER BOWL PILLOW	7250	5/28	SP	2.6	15.2	19.8	8250	6/01	16	6.7	8.6	--
CALVERT CREEK	6450	6/01	EST	0.0	0.0	--	8250	6/01	SP	10.8	11.9	--
CALVERT CREEK PILLOW	6450	6/01	SP	0.0	0.0	0.0	5450	6/05	1	0.4	10.9	20.6
CHICKEN CREEK	4060	5/27	0	0.0	0.0	--	6700	5/31	0	0.0	--	--
CLOVER MEADOW	8600	6/01	EST	6.0	--	--	6700	5/31	SP	.1	0.0	0.0
CLOVER MEADOW PILLOW	8600	6/01	SP	5.7	7.4	--	6800	6/01	EST	0.0	0.0	2.0
COLE CREEK	7850	5/29	0	0.0	--	19.5	6800	6/01	SP	0.0	0.0	1.7
COLE CREEK PILLOW	7850	5/29	SP	0.0	16.4	18.6	8700	6/01	EST	20.0	26.4	27.6
COMBINATION	5600	5/29	0	0.0	0.0	0.0	8700	6/01	SP	17.0	17.8	21.0
COMBINATION PILLOW	5600	5/29	SP	0.0	0.0	0.0	5960	6/01	EST	0.0	--	--
COPPER BOTTOM	5200	6/01	EST	0.0	0.0	--	5960	6/01	SP	0.0	0.0	--
COPPER BOTTOM PILLOW	5200	6/01	SP	0.0	0.0	0.0	5960	6/01	EST	0.0	--	--
DISCOVERY BASIN	7050	5/29	12	3.3	.0	--	5960	6/01	SP	0.0	0.0	--
DIVIVE	7800	6/01	EST	1.0	0.0	--	7800	6/01	SP	1.4	0.0	1.0
EMERY CREEK	4350	6/01	EST	0.0	0.0	--	4350	6/01	EST	0.0	0.0	--
EMERY CREEK PILLOW	4350	6/01	EST	0.0	0.0	--	4350	6/01	EST	0.0	0.0	--
FATTY CREEK	5500	5/31	0	0.0	9.7	9.1	5500	5/31	SP	0.0	0.0	--
FISHER CREEK	9100	6/01	EST	20.0	33.2	40.1	9100	6/01	SP	21.3	29.2	38.0
FISHER CREEK PILLOW	9100	6/01	SP	21.3	29.2	38.0	6300	6/01	SP	23.7	32.9	48.0
FLATTOP MOUNTAIN PILLOW	3450	5/30	0	0.0	--	--	4620	5/30	0	0.0	--	--
FOURTH OF JULY	4620	5/30	0	0.0	--	--	6480	6/01	EST	0.0	0.0	2.1
FRIDAY HILL	4620	5/30	0	0.0	--	--	6480	6/01	SP	0.0	.1	3.1
FROHNER MEADOWS	6480	6/01	EST	0.0	0.0	--	6480	6/01	SP	0.0	0.0	--
FROHNER MEADOWS PILLOW	6480	6/01	SP	0.0	0.0	--	6480	6/01	EST	0.0	0.0	--
GARVER CREEK	4250	6/05	0	0.0	0.0	.1	5900	12/29	33	8.0A	10.0	10.8
GARVER CREEK PILLOW	4250	6/05	SP	0.0	0.0	.0	6400	12/30	9	1.7	6.5	5.1
GIBBONS PASS	7100	5/29	8	2.6	--	11.2	6100	12/26	16	2.5	3.8	4.8
GRAVE CREEK	4300	6/05	0	0.0	0.0	2.1	6210	12/27	9	1.7	10.9	5.5
GRIZZLY PEAK	8400	5/29	25	10.7	--	--	6600	2/04	12	2.1	7.2	2.6
GUNSHOT LAKE	6300	5/31	16	7.8	27.8	35.4	7100	12/27	7	1.1	7.5	3.6
HAND CREEK	5030	6/01	EST	0.0	0.0	--	5030	6/01	SP	0.0	0.0	--
HAND CREEK PILLOW	5030	6/01	SP	0.0	0.0	--	5100	12/29	33	8.0A	10.0	10.8
HAWKINS LAKE	6450	6/05	3	1.6	7.6	24.1	6400	12/30	9	1.7	6.5	5.1
HAWKINS LAKE PILLOW	6450	6/05	SP	1.0	--	23.5	6500	1/29	26	6.1	10.0	11.9
HEART LAKE TRAIL	4800	5/29	0	0.0	0.0	4.1	7500	2/04	30	5.0	8.2	8.3
HELL ROARING DIVOE	5770	LATE DATA	0	0.0	13.6	13.6	6550	1/30	26	6.2	7.1	8.9
HERRING JUNCTION	4850	5/27	0	0.0	0.0	--	6550	1/27	26	5.0A	7.5	7.7
HOOD MEADOW	6600	5/27	3	.6	1.2	3.6	6550	1/27	26	5.0A	7.5	7.7
HOODOO BASIN	6000	5/29	44	24.5	28.8	39.0	6210	1/30	23	6.0	13.2	10.1
HOODOO BASIN PILLOW	6000	6/01	SP	12.9	22.1	33.0	6900	1/31	31	8.4	10.6	10.7
HOODOO CREEK	5900	5/29	43	23.2	28.9	36.5	8100	1/29	43	12.1	13.7	17.5
KINGS HILL												

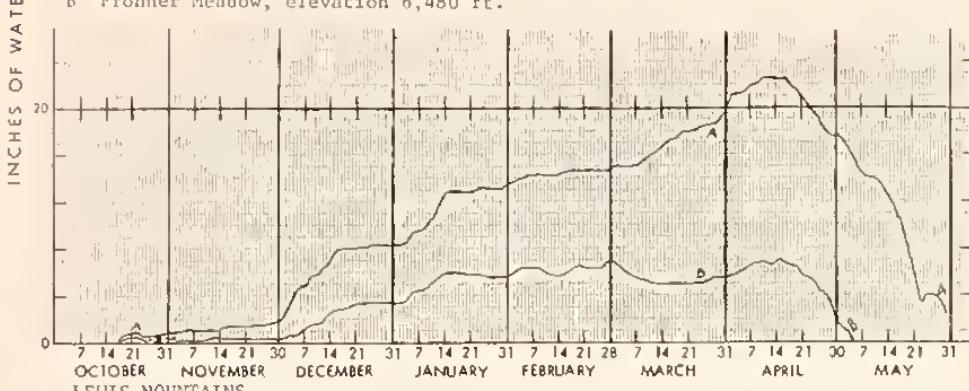
SNOW PILLOW DATA



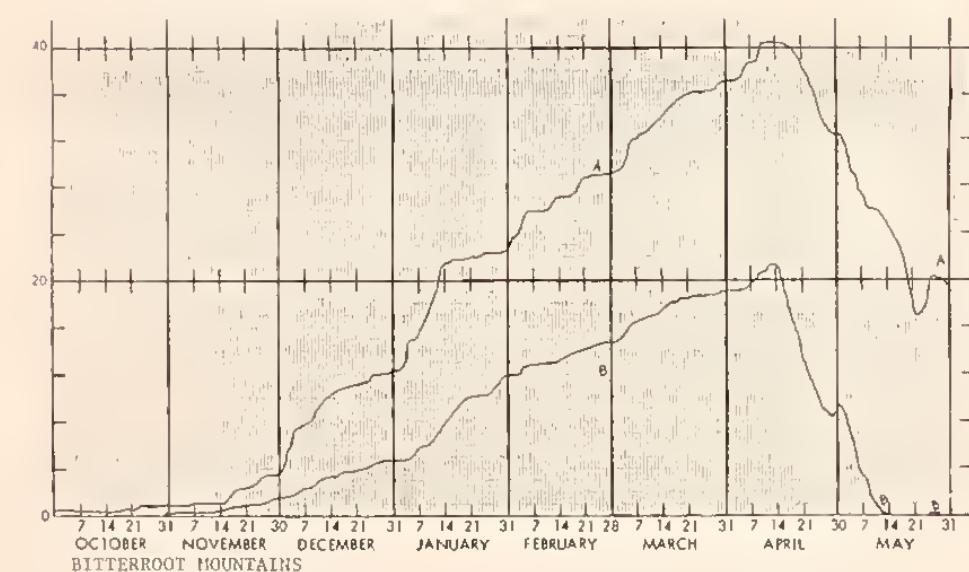
A North Fork Elk Creek, elevation 6,250 ft.
B Lubrecht Flume, elevation 4,680 ft.



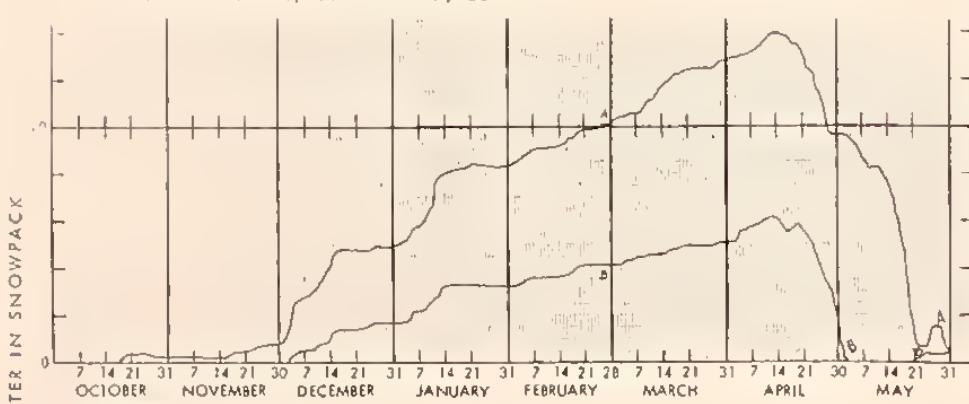
A Roker Peak, elevation 8,000 ft.
B Frohner Meadow, elevation 6,480 ft.



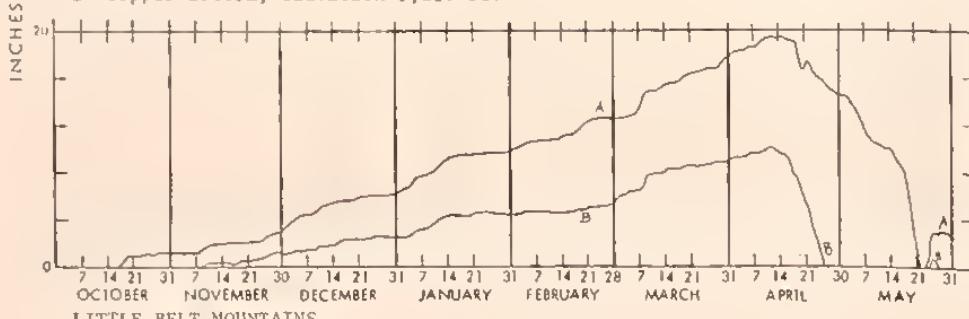
A Mount Lockhart, elevation 6,400 ft.
B Waldron, elevation 5,600 ft.



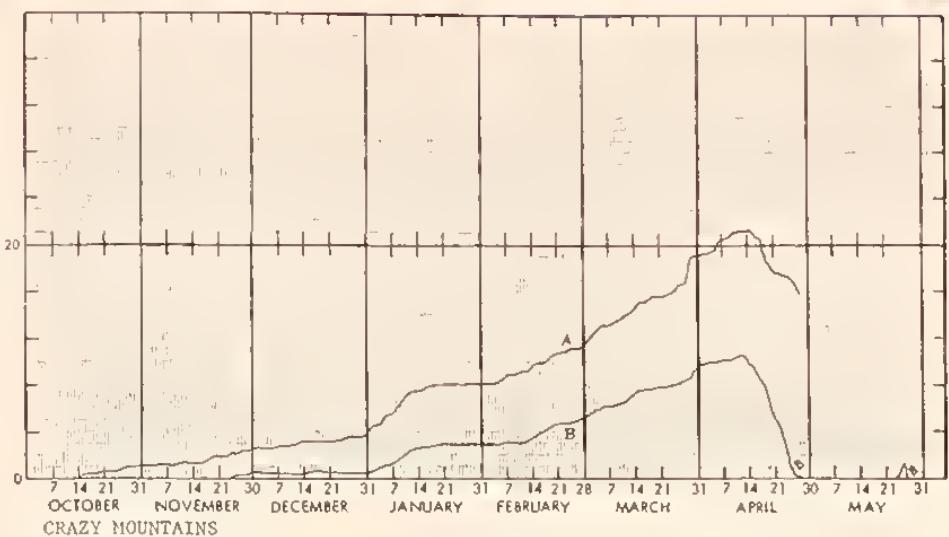
A Twin Lakes, elevation 6,400 ft.
B Twelvemile Creek, elevation 5,600 ft.



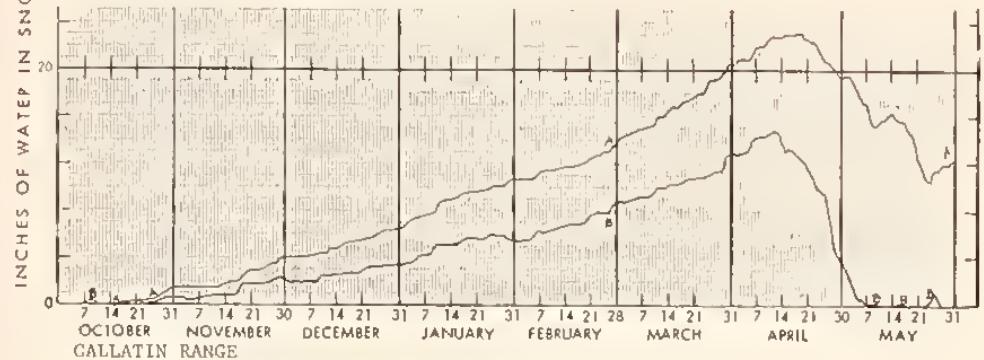
A Copper Camp, elevation 6,950 ft.
B Copper Bottom, elevation 5,200 ft.



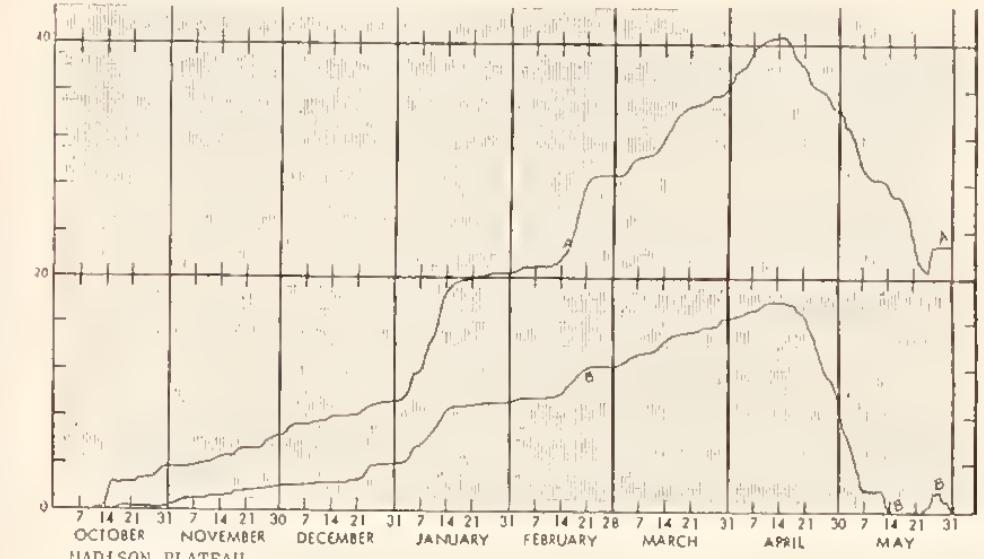
A Spur Park, elevation 8,100 ft.
B Deadman Creek, elevation 6,450 ft.



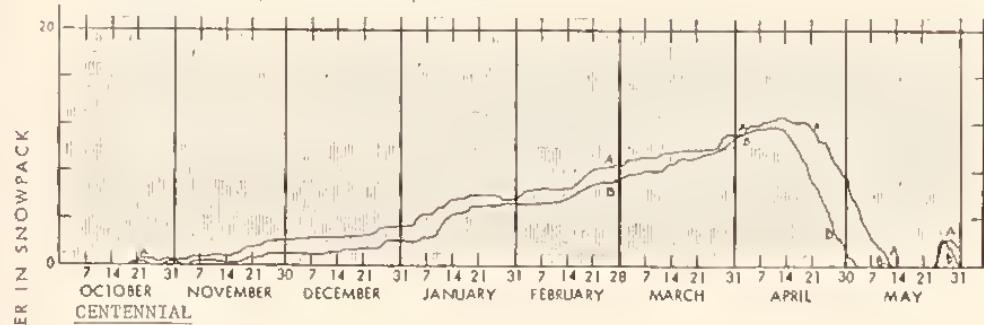
A South Fork Shields, elevation 8,100 ft.
B Porcupine, elevation 6,500 ft.



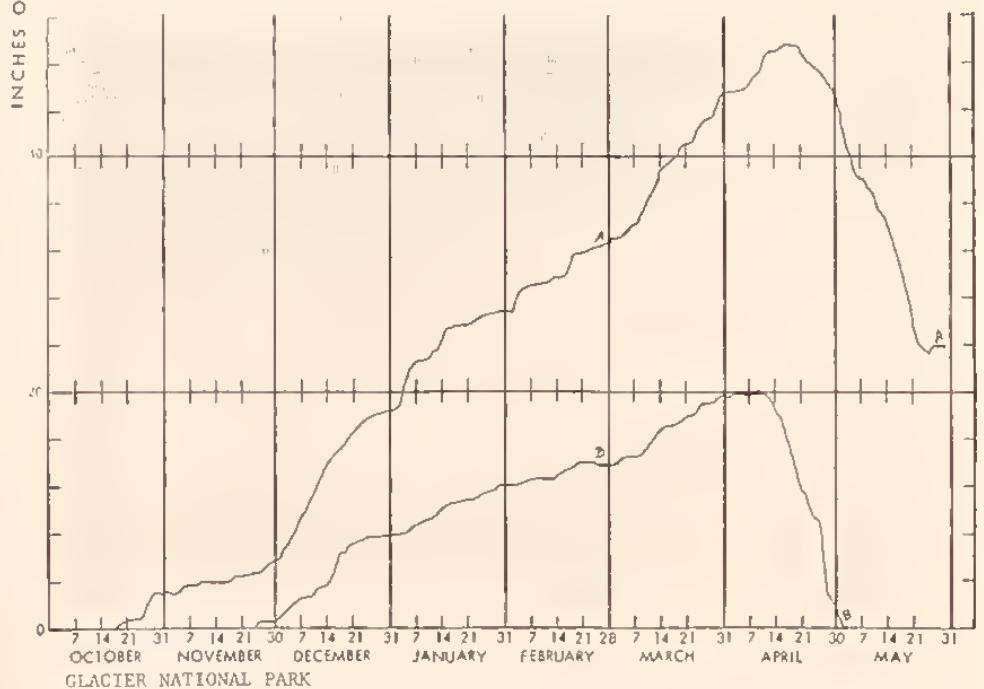
A Shower Falls, elevation 8,100 ft.
B Lick Creek, elevation 6,860 ft.



A Black Bear, elevation 7,950 ft.
B Whiskey Creek, elevation 6,800 ft.



A Divide, elevation 7,800 ft.
B Lakeview Ridge, elevation 7,400 ft.



A Flatop Mountain, elevation 6,300 ft.
B Many Glacier, elevation 4,900 ft.